Forest Resources Commission

Providing the Framework: A Forest Practices Code

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July 1992

Forest Resources Commission
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Victoria, B.C. V8V 1X4

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July 24, 1992

The Honourable Dan Miller
Minister of Forests
Parliament Buildings
Victoria, B.C. V8V 1X4

Dear Mr. Miller:

You asked the Forest Resources Commission to enquire into and provide you with advice on the framework, including any legal or administrative processes, needed to implement a Forest Practices Code. The Commission has completed its review of these matters in accordance with the Terms of Reference given and, herewith, respectfully submits its final report.

Yours sincerely,

A.L. (Sandy) Peel
Chairman

Robert W. Kennedy, Ph.D.
Vice-Chairman

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Commissioner

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Summary of recommendations

The following recommendations appear throughout the text with the appropriate background information.

1. The vision statement and identified objectives be adopted for the development and implementation of the Forest Practices Code.

2. The identified principles be adopted for the development and implementation of the Forest Practices Code.

3. The Government create a Forest Practices Act to give a legal mandate to the development of the Forest Practices Code. Such an act would be enabling in nature.

4. Existing regulations relating to forest practices be integrated within a Forest Practices Code that is empowered by a Forest Practices Act. There be a review of all regulations prior to their incorporation to ensure that they are compatible with the Code's objectives and not in conflict with each other.

5. Minister-approved regulations that allow more flexibility to meet the regional requirements of the province be more widely used.

6. There be a review of all policies, prescriptions and guidelines prior to their incorporation into the Forest Practices Code to ensure that the instruments are compatible with the Code's objectives and not in conflict with each other.

7. The Forest Practices Code be a single, all-encompassing code based on the principles of integrated resource management with the first phase directed at timber harvesting and the protection of other forest values.

8. There be an explicit link between the Forest Practices Code and any land use planning initiatives.

9 The Code be applied to all Provincial Forest land, private managed forest land and private land within TFLs.†

10 A Forest Practices Board be established by legislation. The Board would report to the Cabinet Committee on Sustainable Development through the Minister of Forests. The Minister would appoint a number of directors to the Board to represent the interests of society as a whole.

11 The Forest Practices Board be given the mandate to establish a system of independent audits.

12 Audits be paid for by the organization being audited.

13 The current auditing responsibilities of the Ministry of Forests and other government agencies be transferred to the Forest Practices Board to be carried out by independent auditors.

14 The Forest Practices Board maintain a list of approved audit firms, and periodically verify a firm's right to practice.

15 The Forest Practices Board establish a system of Generally Accepted Forestry Principles (GAFP) in cooperation with various stakeholder groups as a means of applying consistent forest practices.

16 The Forest Practices Board adopt and enforce audit standards as a means of maintaining the control and credibility of the audit system.

†With the exception of private managed forest land and private land within TFLs, private land is not addressed in this recommendation as the "issue of the application of the Code to private land" was explicitly excluded by the government.

17 There be full public disclosure of all audit reports by the Forest Practices Board by the distribution of reports to interested stakeholders and by an annual report on forest practices to the Legislature through the Minister.

18 The Ministry of Forests allow increased management and operating flexibility for the better performers as determined by independent audit and concentrate its monitoring efforts on the poorer performers.

19 The Ministry of Forests give better performers the incentive to utilize any incremental yields they have created without paying full royalty or stumpage.

20 The Forest Practices Board award an official Forest Stewardship Seal to licensees who consistently meet or exceed the established high standards verified by an independent audit.

21 A graduated penalty system be designed to match the penalty with the severity of the infraction for those who are subject to the provisions of the Forest Practices Code.

22 The penalty system be reviewed to ensure consistency of application.

23 All fines be deposited into a special purpose fund dedicated to environmental restoration and public education programs.

24 To the maximum extent possible, operational incentives and penalties be managed at the district level.

25 The Ministry address the need for staff training and review of procedures to provide an internal control on the application of incentives and penalties.

26 The Forest Practices Board be given the authority to empower a professional tribunal when necessary to hear appeals concerning the application of incentives and penalties by the Ministry of Forests' staff.

27 Appeals of the tribunal's decisions may be heard by a sub-committee of the Forest Practices Board.

28 The licence deposit system take into account the licensee's performance and the cost of remedial work.

29 Decisions regarding the assessment of the deposit amount be subject to appeal to a professional tribunal established under the Forest Practices Board.

30 The Ministry of Forests establish a system of individual licensing for all personnel who work in the forests, except members of a self-regulating profession.

31 A mandatory training and certification program for compliance with the Code be established for personnel who have the greatest impact on the forest (existing personnel would be 'grandfathered' into the program). The program should be a joint venture between industry and the government.

32 The Forest Practices Board and the Commission on Resources and Environment work in cooperation to ensure that there is meaningful community involvement with respect to the Forest Practices Code.

33 The Forest Practices Board be empowered to hear appeals concerning decisions made under the Forest Practices Code.

34 The Forest Practices Board be empowered to review the Code in cooperation with relevant government agencies and other stakeholders*, and advise the Minister accordingly.

Foreword

Over the last three years, the Forest Resources Commission has constantly heard support for a legislated Forest Practices Code to guide land management practices. We have listened to interested individuals and to representatives of environmental groups, industry, unions, recreationists, ranchers and aboriginal groups. From these divergent groups, there is a consensus that a code would help provide better management of the province's forests.

In January 1992, the Forests Minister gave the Commission the mandate to make recommendations on the framework for a Forest Practices Code including any legislation or administrative processes required to implement such a code. In developing the terms of reference, the Minister separated the Code's framework from its technical contents — the latter to be developed by an interdepartmental Forest Practices Code Steering Committee.

By focusing on the framework, the Commission has been able to concentrate on the broader issues rather than assessing the appropriateness of specific forest practices. Our investigation into this subject leads us to believe that forest practices are as much a social issue as they are the application of the appropriate technical remedies.

Our public participation process identified many policy objectives that should be achieved by the Code. We recognized that the successful introduction of the Code will require modification of many existing administrative arrangements to achieve the identified objectives. In short, the objectives can only be realized through an analysis and redesign of the administrative arrangements that have been created to manage our forests.

We have been told by many different groups that the Code cannot be simply a continuation of the status quo. Many interest groups, including environmentalists and industry representatives, see the Code as an opportunity to redefine the way the forests are managed. People are concerned about specific practices, but they also want changes in the overall administrative processes including formulation, implementation and verification of forest practices. The Commission finds these arguments difficult to refute and believes that it is time for a change.

The following sections outline the Commission's thinking and recommendations on the overall framework and the administrative and legal processes needed to implement a Forest Practices Code. We believe that the Code should be developed as a priority initiative because of its impact on the public acceptance of forest practices and the long-term viability of the timber industry.

A.L. (Sandy) Peel
Chairman

1. Introduction

The Forest Resources Commission has seen a growing convergence of opinion surrounding the introduction of a Forest Practices Code. Initially, a large number of issues were considered to fall within the Code's realm. Through public participation and consultation, the Commission has been able to distill from the general concerns a number of specific, critical issues that relate to the Code. It is these issues that are addressed within this report.

The Commission has listened to a large number of individuals and stakeholder* groups. From the onset, it was recognized that the Forest Practices Code would be of interest to, and could potentially affect, many groups involved with B.C.'s forests. A public participation process was designed to move beyond the progress already made by different groups and other government initiatives, and to proceed with due haste given the Minister's timetable (see Appendix 1).

1.1 Defining the language

An essential part of the process was the need to clarify the terminology used to discuss a Forest Practices Code. It quickly became evident to the Commission that a "code" means different things to different people: some people suggested that a code is a collection of moral principles; while others claimed that a code is a set of irrevocable laws. To provide common ground for discussion, the Commission has adopted the following definition:

> ***a code is a systematic collection of statutes or other instruments; a body of laws and precepts so arranged as to avoid inconsistency and overlapping.***

In this respect, a code is all-encompassing because it includes the legislation, regulations, prescriptions and guidelines that govern forest practices (see Exhibit 1).

It has been important to draw a distinction between forest practices and land use planning. Concerned individuals and groups have acknowledged that there is an interdependence between these processes. Land use planning is concerned with land use issues. It requires the technical determination of what uses or values a given area of land can support and the subjective determination of what values society wants from that area of land. Forest practices are concerned with land management issues. In this sense, forest practices refer to the management regime that is employed to meet the land use objectives in an environmentally sensitive and cost-effective manner.

It was also necessary for the Commission to specify exactly what activities are considered to be forest practices. From its public discussions, the Commission noted that most people think forest practices are the matters associated with timber harvesting (e.g., logging, reforestation*, road building and worker safety). These practices are very intrusive in the forests — both ecologically and perceptually — and are subject to considerable public debate, but they represent only a fraction of all the activities that can occur in the forests. The Commission decided that the spirit of **enhanced stewardship**[1] requires a much broader definition, so forest practices are defined to be:

> ***any human activity that is carried out on forest land, which includes (but is not limited to) timber harvesting, road construction, grazing, wildlife management, recreation, pest control and wildfire suppression.***

---

[1] The ethic of enhanced stewardship was adopted by the Forest Resources Commission in the report *The Future of Our Forests*, where it was defined to be the intensive, integrated management for all values on the largest land base possible.

Exhibit 1 - Definition of a Forest Practices Code

A code is *a systematic collection of statutes; a body of laws so arranged as to avoid inconsistency and overlapping*. The following instruments could be applicable to the Forest Practices Code:

- **Legislation** – enacted and amended by the Legislative Assembly and enforceable through the full powers of the government (e.g., *The Forest Act*).
- **Regulations** – enacted and amended by the Lieutenant Governor in Council and have the full force of law (e.g., Silvicultural Regulations).
- **Policies** – an interpretation of legislation and regulations.
- **Prescriptions** – legal basis could vary, but they could be enforced through contract or licence agreements.
- **Guidelines** – no legal requirement to comply but they provide recommended processes and activities.

1.2 Clarifying the objectives

The Commission believes that the Forest Practices Code should be viewed as a vehicle of public policy. It should be seen as a tool that is fashioned to achieve specified objectives that are considered desirable through the application of technically correct management practices. From this perspective, the Code's framework and contents must be discussed in terms of the desired objectives. This approach recognizes that there is a danger of policy initiatives becoming 'sidetracked' by a lack of clearly defined objectives.

The overall goal of enhanced stewardship is identified in the vision statement of *The Future of Our Forests*:

> ***the forests of British Columbia will provide for the economic, environmental, social, and spiritual well-being of all British Columbians through successive generations.***

This vision statement should be taken as the overriding goal that can be further refined by identification of a series of specific objectives.

Identification of the Code's objectives is the first stage in the development process (see Exhibit 2). Throughout its public participation process, the Commission heard many different opinions on what the Forest Practices Code should achieve. People often discuss the objectives in relation to their personal beliefs and their view of human interaction with the forest. For some, the objectives relate to the utilization of the consumptive* and non-consumptive values* of the forest. Others believe that the highest priority is to ensure that human activities do not degrade the physical and biological capacity of the forest.

The Commission has listened to these viewpoints and identified a number of specific objectives the Code should achieve.

* defined in glossary

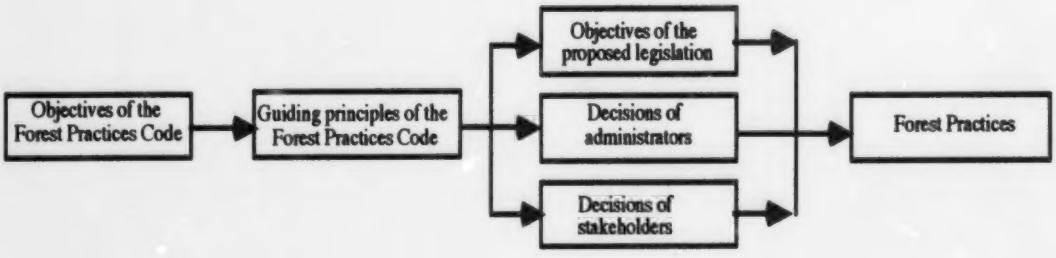
The Commission believes that the following objectives reflect the views of a broad segment of the population and, as such, provide the starting point for the Code's development:

1 To set standards for enhanced stewardship for B.C.'s forests.
2 To recognize the importance of all forest values on an integrated resource basis.
3 To strive for a balance between economic needs and long-term ecological sustainability.
4 To give fair and equitable consideration to all forest stakeholders'.
5 To recognize the ecological and economic diversity of B.C., which requires that performance standards be applied on a provincial, regional and local basis.
6 To support an open and timely decision-making process that is accountable to the public and cost effective.
7 To provide an administrative system that is effective through a comprehensive system of incentives and penalties.
8 To encourage a positive program of communications, education and training to assist forest users and resource managers apply the code effectively and equitably.

The Forest Resources Commission recommends that:

1. *The vision statement and identified objectives be adopted for the development and implementation of the Forest Practices Code.*

Exhibit 2 - Objectives establish the process


Objectives of the Forest Practices Code
Guiding principles of the Forest Practices Code
Objectives of the proposed legislation
Decisions of administrators
Decisions of stakeholders
Forest Practices

1.3 Guiding principles

The guiding principles provide the "glue" between various objectives of the Forest Practices Code. The Code can be viewed as having three interrelated components: first, there is the skeletal framework that defines the various legal instruments; second, there are the specific prescriptions for planning and field practices; and finally, the people who develop and apply the prescriptions. People are the key to the Code's success in achieving the identified objectives; the principles should guide the people who formulate the management instruments; and, they should guide the people who interpret the same instruments on a day-to-day basis.

There is a direct relationship between the objectives and the principles (see Exhibit 2). The objectives tell us where we want to go, while the principles provide a road map to help achieve them.

In its public consultation process, the Commission has been made aware of a large number of inherent principles that people feel are necessary if the Code is to achieve the stated objectives. The Commission has reviewed these principles, and solicited public comment, to prepare a list of principles that is internally consistent. The following principles can be viewed as the requirements that must be satisfied for the development and implementation of the Code.

1 The code must be seen as one component of a provincial commitment to protect and sustain the environment while ensuring a sustainable economy.
2 The code should recognize that the physical and biological capacity of the forest is a key to the long-term sustainability of all consumptive* and non-consumptive* uses.
3 The code should be based on integrated resource management* principles.
4 The code should link forest practices to resource management priorities expressed in land use plans.
5 The code should draw on the best of existing policies, practices and experience acquired over time and incorporate them within a single framework.
6 The code should provide minimum provincial standards for practices on applicable forest lands; the application of these standards should be flexible in response to the varying ecological conditions found in B.C.
7 There must be a systematic and cost-effective process for public input in the development, implementation and revision of the code.
8 The code should emphasize clear processes to develop locally relevant standards that improve upon provincial standards.
9 Since practices are evolutionary there should be a process of review in response to changes in social values, new scientific information, new technology and the results of field experience.
10 Decision-makers and resource managers must be accountable to the public and the code should provide for an open and cost-effective appeal process against resource management decisions.
11 The code should promote optimal standards for good forest stewardship through a system that rewards good practices and penalizes poor practices.

* defined in glossary

12 Enhanced stewardship and public accountability can be best achieved through a system of established standards for practices and processes which can be assessed by independent audit.

13 While the code should respect the cost implications of compliance, setting and enforcing standards should be rigorous enough to ensure protection of the integrity and long-term productivity of the forest.

14 The safety of humans should be considered a priority in forest resource management.

15 The code should address the training of forest workers to ensure effective application of the code in practice.

16 The code should promote public awareness of forest practices standards and processes.

The Forest Resources Commission recommends that:

2. *The identified principles be adopted for the development and implementation of the Forest Practices Code.*

2. The legal framework

The legal framework of the Forest Practices Code is central to the Commission's mandate. The framework sets the tone for other issues addressed by the Commission, and provides guidance for the development of the Code.

In its public discussions, the Commission heard a number of important issues that relate to the legal environment. There is strong support for a legal framework that formalizes forest management activities and provides legally enforceable rights and obligations to some sections of society (e.g., public participation in the Code's development, the right of appeal). There is also support for a legal environment that recognizes professional accountability, and there is a need for flexibility in the development and application of the Code because of B.C.'s great diversity. At first glance, these issues appear to be in conflict, but the Commission believes that the environment can be designed to accommodate these various concerns.

One solution is to use different legal and management instruments for different purposes. There are five broad categories of instruments: legislation, regulations, policies, prescriptions and guidelines. The distinction between the categories is defined by various parameters, such as the legal authority, scope and level of applicability. However, an instrument can be designed to have any attribute that is required (see Exhibit 3).

2.1 Legislation

The Commission believes that the Code must be based in legislation. This is necessary to provide a focus to the Code's development and to ensure that components of the Code are legally enforceable. By passing legislation, the Government can give the Code legal sanction and signal to the public the Government's commitment to the Code's objectives.

British Columbia does not suffer from a shortage of relevant legislation. There are six national acts and 20 provincial acts governing forest practices. Such a plethora of legislation creates both jurisdictional conflict and confusion for the public and the various bodies charged with the administration of legislation. A simple rationalization of the various acts and regulations would not only be time-consuming, but it would not result in any significant improvement to either jurisdictional conflict or confusion. Therefore, the Commission sees no alternative other than the introduction of a specific Act under which all elements of a Forest Practices Code would be consolidated.

The Commission has heard arguments that the Code can exist without a legislative mandate. It has been claimed that the Code could consist of a series of voluntary management principles that would act as guidelines for good forest practices. The Commission believes that this approach would not achieve the stated objectives and would not be viewed as a credible option by most stakeholder groups.

The Commission has heard arguments for the introduction of prescriptive legislation to govern forest practices. This type of legislation would prescribe appropriate activities and standards for forest practices. It was decided that this legal framework would be too restrictive and would be unable to satisfy B.C.'s diversity of forest conditions.

The Commission has also heard arguments that a Forest Practices Code should be rooted in enabling legislation. Such legislation would set out the objectives of the Code and provide for the necessary administrative processes. It would also provide the authority to develop and apply such regulations, prescriptions and guidelines that may be necessary to effect a full range of forest practices. These regulations, policies, prescriptions and guidelines should be

* defined in glossary

Exhibit 3 - Description of existing legal and management instruments

Instrument	Features
Legislation	- Enacted and amended by the Legislative Assembly. - Enforceable through the full powers of the government. - Open to legal interpretation. - Can be prescriptive or enabling. - Usually a lengthy preparation and approval process. - Written in legal language. - Usually province-wide application.
Regulations	- Enacted and amended by the Lieutenant Governor in Council. - Have the full force of law. - Open to legal interpretation. - Time for preparation and approval process may vary. - Written in legal language. - Usually province-wide application, but could be region specific.
Policies	- Usually an administrative interpretation of legislation and regulations. - Provide direction for prescriptions and guidelines. - Open to administrative interpretation only. - Time for preparation and approval process may vary. - Written in plain language. - May be province, region or district specific.
Prescriptions	- Legal basis could vary, but they could be enforced through contract or licence agreements. - Time for preparation and approval process may vary. - Open to administrative interpretation only. - Written in plain language. - Usually site specific, but could have wider application.
Guidelines	- No legal requirement to comply but they provide recommended processes and activities. - Time for preparation and approval process may vary. - Open to administrative interpretation only. - Written in plain language. - May be province, region or district specific.

capable of being applied on a site specific basis to reflect the incredible diversity of B.C.'s forest conditions. The Commission concurs with this approach.

All sections of other legislation that relate to forest practices should be consolidated into the new Act. The Act should define processes for the Code's development and review, public participation and appeal, and any new administrative arrangements[2]. The new Act would provide legal authority for the development of regulations, prescriptions and guidelines.

The Forest Resources Commission recommends that:

3. ***The Government create a Forest Practices Act to give a legal mandate to the development of the Forest Practices Code. Such an act would be enabling in nature.***

2.2 Regulations

Regulations are an important part of any legislated process to achieve public policy objectives. They can be tailored to very specific purposes, and are easy to implement and amend. As a result, regulations can both formalize and retain the flexibility of forest practices.

There are currently more than 32 provincial regulations relevant to forest practices[3]. These vary from detailed prescriptions to brief proclamations of fees. Legislation usually specifies that regulations are to be made by the Lieutenant Governor in Council for application throughout the province. Under some circumstances, legislation may allow the Minister to approve policies and procedures for particular regions (for example, see Section 84, *Forest Act*[4]). This diversity of form suggests that regulations can have regional and provincial application, while still retaining the force of law.

The Commission believes that the Forest Practices Code will not, nor necessarily should it, reduce the number of provincial regulations. Rather, it should provide a framework for the regulations to achieve the required objectives. The need for flexibility of forest practices to satisfy regional requirements must be considered in the drafting of regulations. This could be achieved through greater use of regulations, similar to Section 84 of the *Forest Act*, that are approved by the Minister instead of the Lieutenant Governor in Council.[5] This will create a more timely approval process.

The Forest Resources Commission recommends that:

4. ***Existing regulations relating to forest practices be integrated within a Forest Practices Code that is empowered by a Forest Practices Act. There be a review of all regulations prior to their incorporation to ensure that they are compatible with the Code's objectives and not in conflict with each other.***
5. ***Minister-approved regulations that allow more flexibility to meet the regional requirements of the province be more widely used.***

[2] These requirements are specified in greater detail in later sections.
[3] See Cuthbert (1992).
[4] This section allows the Minister to set regional policies and procedures for determining stumpage rates.
[5] The Lieutenant Governor in Council provides a last 'court' of review for regulations.

* defined in glossary

2.3 Policies, prescriptions and guidelines

The Commission has heard some concerns expressed about the role of other instruments in the management and legal hierarchy. On the one hand, people support these administrative tools because they are flexible, but there are also criticisms due to the lack of effective public accountability. These instruments have a major influence over forest practices, with more than 380 different instruments currently in existence across the province.[6]

Policies, prescriptions and guidelines are based on administrative interpretation and implementation. They are an accepted way of achieving objectives in the public service because they provide government ministries with the flexibility to adjust the management regime as a result of new policy directives or new information. Where they apply to forest management or timber production, these instruments are given the force of law by including them in legally-binding contracts that can be enforced through a court of law.

Some stakeholder* groups have expressed concern over the dominant role played by these management instruments. People claim that these instruments are treated as a part of the public service fief, and often do not reflect various stakeholder concerns. Policies are especially criticized because they are an interpretation of legislation and regulations, and may be dominated by the opinions of influential individuals. Guidelines allow considerable flexibility and are often formulated with representation from various stakeholders*.

The Commission recognizes that policies, prescriptions and guidelines will continue to play a major role in the management of B.C.'s forests. However, there is a need to ensure the instruments are consistent with the objectives of the Code, are not internally inconsistent or in conflict with each other. The instruments should be evaluated or modified to provide sufficient public accountability of decisions made. These instruments would be enforced as conditions of licence agreements or through contract law.

The Forest Resources Commission recommends that:

6. *There be a review of all policies, prescriptions and guidelines prior to their incorporation into the Forest Practices Code to ensure that the instruments are compatible with the Code's objectives and not in conflict with each other.*

[6] See Cuthbert (1992).

3. Scope of the Code

The Commission has heard a variety of opinions on matters to be included in the Forest Practices Code. Unfortunately, much of the terminology used in the debate on forest practices is open to interpretation. What is the definition of 'forest'; does this include private and public land? What practices are to be included? What is a Code? These questions are critical for deciding the scope of the Code.

An important part of the Commission's decision-making process has been to identify and clearly focus on the important issues. In Section 1.1, the first steps in this process were aided by the definition of some key terms (see Exhibit 4). In the report, *The Future of our Forests*, the Commission recommended that "a single, all-encompassing code of forest practices be established through the introduction of a Forest Practices Act."[7] As a first iteration, this recommendation was a very broad brush that could be interpreted to include all activities on all lands. The Commission's current mandate has afforded it an opportunity to reexamine this subject in greater depth, and has resulted in a number of refinements to this broad policy recommendation.

3.1 Emphasis of the Code

The idea "single, all-encompassing code" has a great deal of attraction. It suggests that there is a comprehensive document (or document hierarchy) that avoids duplication and inconsistency. It suggests rational planning, rather than ad hoc development. It is congruent with the ideas of integrated resource management* and enhanced stewardship — both require management of the forests for a wide range of consumptive* and non-consumptive* forest values.

When the Commission undertook its public consultations, it quickly became apparent that most people supported a single code based on integrated resource management* principles. It also became obvious that many of the same people concentrated on timber harvesting activities when they discussed forest practices. During its public involvement process, the Commission developed two additional alternatives for the structures for the Code.[8] Although the arguments for these alternative structures are persuasive, the preferred option is a single integrated resource management* code.

Exhibit 4 - Some important definitions

Forest practices are any human activity that is carried out on forest land; this includes (but is not limited to) timber harvesting, road construction, grazing, wildlife management, recreation, pest control and wildfire suppression.

A **code** is a systematic collection of statutes; a body of laws so arranged as to avoid inconsistency and overlapping. The following instruments could be applicable to the Forest Practices Code: legislation; regulations; policies; procedures; and guidelines.

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[7] Forest Resources Commission (1991), page 88.

[8] In addition to a single code with emphasis on integrated resource management, the Commission offered as alternatives: (1) a code that focused on timber production with protection of other values; (2) separate codes for the major user groups.

* defined in glossary

There was also an acknowledgment that the initial emphasis should focus on timber harvesting activities and its potential impact on other forest values. The Commission concurs with this viewpoint.

The integrated resource management* objectives of the Code should be specified in a Forest Practices Act. The Code should initially focus on timber production activities and the impact on other forest values. It is suggested that the Code be developed in distinct phases — the analogy would be to the chapters in a book. The first phase would cover timber harvesting and the protection of other forest values. The goal would be to include all forest activities within the Code in a reasonable time frame.

The Forest Resources Commission recommends that:

7. ***The Forest Practices Code be a single, all-encompassing code based on the principles of integrated resource management* with the first phase directed at timber harvesting and the protection of other forest values.***

3.2 Type of activities

The Commission has attempted to draw a clear distinction between forest practices and land use planning. It is recognized that there is a connection between these activities, but they are applied to the land base at different scales of intensity. Land use planning is concerned with assigning various values to different categories of land at a provincial or regional level. Forest practices, which include management planning activities, occur at a local and stand level and help achieve land use goals.

It is often convenient to think of land use planning and forest practices as being sequential. In an idealized situation, the land use plans would establish the land use classification and the appropriate goals, which would suggest the application of specific forest practices. It is the forest practices that would achieve the established goals for each land use category.

In traditional resource management models, land use planning is the highest activity in the management hierarchy that allocates forests to particular categories such as parks, wilderness areas or timber production. It is often referred to as the "broad brush" allocation of land at a provincial or regional level. Once a piece of land is designated to a category, it suggests the type of management use to which it will be put and the management practices follow from that classification.

However, under integrated resource management* principles, the forest available for timber harvesting is also managed for a wide range of other forest values. In many cases, this involves reserving land or modifying logging techniques for riparian zone management*, visual quality objectives*, wildlife habitat* and biodiversity*. In effect, this is a process of land use planning at the stand level, but these decisions are considered management practices.

The government has established the Commission on Resources and Environment (CORE) to develop a provincial strategy for land use and a framework to help resolve

land use disputes. The CORE's decisions on land use will have important ramifications for the Forest Practices Code, so the two processes must be developed in conjunction to achieve optimal results.

The Forest Resources Commission recommends that:

8. ***There be an explicit link between the Forest Practices Code and any land use planning initiatives.***

3.3 Applicable lands

In asking the Forest Resources Commission to prepare recommendations on a Forest Practices Code, the government specifically requested that all questions raised in the initial public discussion paper[9] be addressed, excluding the issue of the application of the Code to private land. This has not been taken to mean private land within TFLs* or private managed forest land* that have been specifically designated for commercial timber production. In spite of this restriction placed on the Commission, respondents and workshop participants repeatedly raised the issue of private land in their written briefs and workshop discussions.

The decision concerning to what lands the Code should apply is one of the more controversial issues. For some people, the first response to this issue is to apply the Code to all private, provincial and federal forest lands (see Exhibit 5). Other people are equally quick to argue that the government should only regulate activities on its own land (i.e., Crown land), and it should not place additional restrictions on the use of private land. This is an issue that has a strong philosophic argument on both sides, and a social consensus is unlikely.

On further reflection, the Commission decided that there are several intertwined topics that relate to the definition of applicable lands. First, there is the issue of government authority to regulate various land categories. Second, is the connection to land use planning processes. Finally, the issue is confused by the variety of categories of private land.

The division of legal power and jurisdiction is a complex topic. Under the present constitutional arrangements, the provincial government would not have legal authority over federal land. However, it can regulate private land by gaining legislative and Crown approval — the Agricultural Land Reserve is a case in point. The question is not whether the government has authority to regulate private lands, but whether it wishes to as a matter of policy.

The issue of private land is complicated by the existence of different categories. Private land within TFLs* must be managed under integrated resource management* principles. Private managed forest land*

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[9] B.C. Ministry of Forests, *A Forest Practices Code - a Public Discussion Paper.*

must be reforested according to specified management plans*; this land category is given a tax advantage as an acknowledgment of its role in long-term timber production. Unmanaged private forest land is not required to meet any management criteria, and it is often subject to conversion to other uses such as urban development.

The Commission heard a lot of arguments on this topic. After due consideration, it was decided that the Code should apply to all Provincial Forest and private managed forest land* and private land within TFLs*. The total area included in these land categories is shown in Exhibit 5.

The Forest Resources Commission recommends that:

9. *The Code be applied to all Provincial Forest land, private managed forest land and private land within TFLs.*†

†With the exception of private managed forest land and private land within TFLs, private land is not addressed in this recommendation as the "issue of the application of the Code to private land" was explicitly excluded by the government.

Exhibit 5 - Land Status in British Columbia (1987)

Land status category	Area (ha)	Percentage
Federal land		
National Parks	475,999	0.5
Indian Reserves	341,077	0.4
Defence Lands	57,266	0.1
Transportation	15,477	–
Miscellaneous	31,579	–
Total federal land	921,398	1.0
Provincial land		
Provincial Forests (excluding Tree Farm Licences)	73,897,568	78.0
Provincial Forests within Tree Farm Licences	6,440,779	6.8
Community Pastures	167,699	0.2
Provincial Parks	5,368,501	5.6
Regional Parks	8,128	–
Crown land under *Land Act* tenure	379,606	0.4
Ecological Reserves (Land Only)	107,321	0.1
Total provincial land	86,365,602	91.1
Private Land		
Managed Forest land in TFLs	200,933	0.2
Private managed forest land (excluding TFLs)	924,525	1.0
Unmanaged forest land	65,242	0.1
Farm land	2,369,000	2.5
All other classes	2,126,300	2.2
Total private land	5,686,000	6.0
Total land area	92,973,000	98.1
Total water area	1,807,000	1.9
Total area	94,780,000	100.0

Source: British Columbia Land Statistics, Ministry of Crown Lands (1989)

Ownership Status of Land in British Columbia, T.M. Thomson & Associates (1992)

* defined in glossary

4. Administrative arrangements

The framework of the Forest Practices Code is explicitly tied to the administration of B.C.'s forests. Administrative arrangements should be designed to achieve the identified objectives. No particular administrative structure can be considered a *fait accompli*, since our society is constantly wrestling with the most effective and efficient means of achieving policy objectives. An important requirement is to design a system that has sufficient checks and balances to ensure that the public good is being achieved.

The Commission believes that empowerment of various stakeholders* is an important component of the Code's framework. The following sections identify the importance of this objective and the existing administrative arrangements, and recommend administrative changes needed to develop and implement a Forest Practices Code.

4.1 The importance of empowerment

The Commission has heard much dissatisfaction with the way B.C.'s forests are managed. Many people have expressed frustration with the decision-making process, especially as it relates to activities that occur in "their forest."[10] They believe that decisions affecting "their forest" are made behind closed doors by government officials and industry executives.

The core of this controversy is meaningful participation. People need to feel that they are able to participate in the decision-making process — this is often referred to as empowerment. Many stakeholders* are no longer prepared to delegate all the authority to manage the forests to elected representatives, public servants and tenure* holders. The framework for the Forest Practices Code relates to this empowerment, and is hence a social and technical issue.

4.2 Power and influence in forest practices

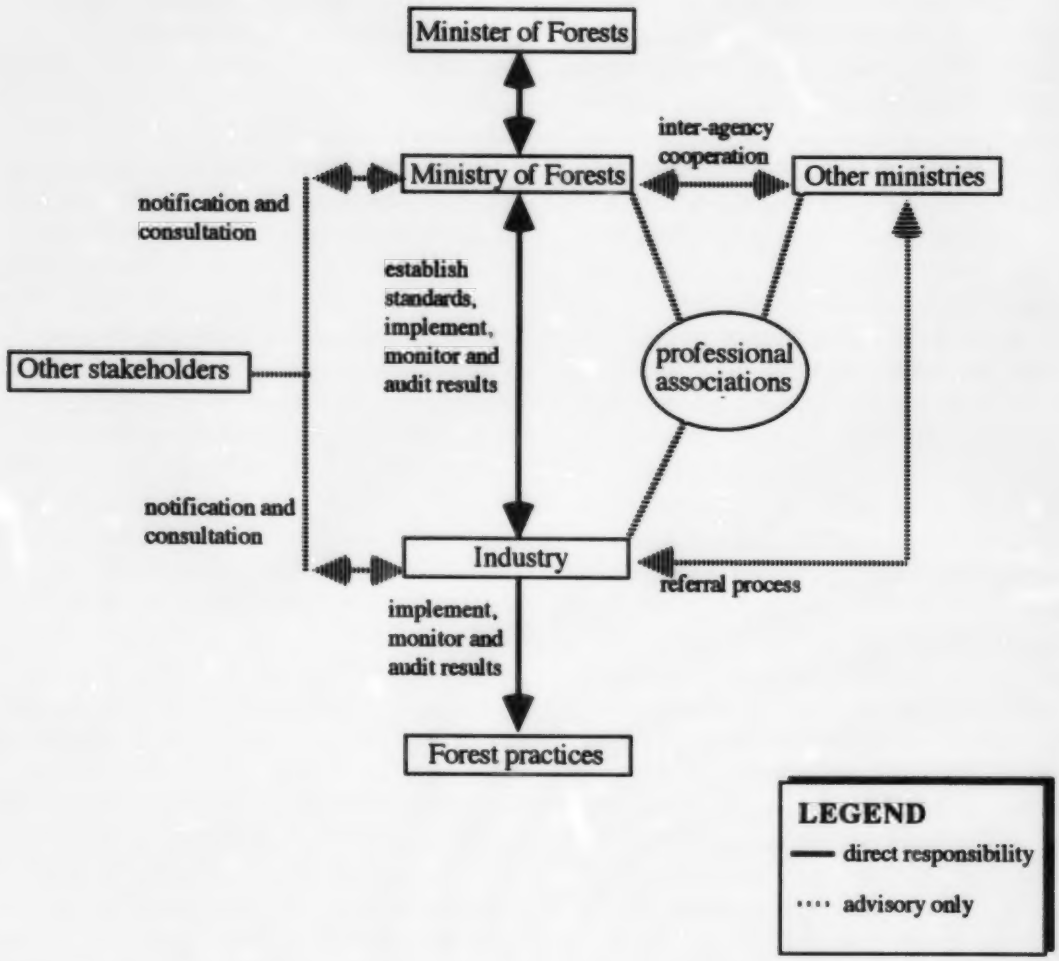
There are currently many groups in B.C. who are part of the forest practices policy network*. Describing the policy network for forest practices is complicated by the specific nature of many practices where some groups may be only concerned with certain activities that affect their area of interest. Timber harvesting usually impacts on most other activities and can be used as a generic model (see Exhibit 4).

In the current policy network*, the Ministry of Forests has used the timber industry to implement its timber harvesting activities. This is true for the Small Business Forest Enterprise Program* (SBFEP) and other timber licencing arrangements (i.e., Forest Licence*, Tree Farm Licence*) — the only difference is the type of activities delegated to the industry. Traditionally, the Ministry has described this relationship with industry as a partnership arrangement.

Self-regulating professional associations play an important role in the development and implementation of forest practices. The membership of the Association of British Columbia Professional Foresters (ABCPF) is often at the forefront of forest practices, either individually or as a part of their employment. The ABCPF regulates the mem-

[10] What people consider to be "their forest" varies from a local, regional, provincial, national and international scale depending on the context. The Forest Practices Code is usually discussed in terms of the first three scales.

Exhibit 6 - Generic model of the policy network* for timber harvesting



Note: This model is for illustrative purposes only. It is intended to demonstrate the roles of different stakeholders* in the current administrative system.

* defined in glossary

bership through its Code of Ethics and its licensing monopoly over professional foresters. Other associations include the Association of Registered Professional Biologists, B.C. Institute of Agrologists, and the Applied Science Technologists and Technicians of B.C.

Under the current administrative structure, many groups are relegated to a position of consultation and notification. This includes various environment groups, community representatives and forest recreationists. These groups often have input into forest practices only through planning mechanisms. The partnership arrangement between industry and the Ministry of Forests has been challenged by these groups because it places too much emphasis on timber production to the detriment of other values.

For the Code to gain wide public acceptance, there must be meaningful involvement for various stakeholder* groups. This involvement cannot be achieved under the current arrangements that limit public involvement to consultation and notification. Instead, the public must be treated as the owners of B.C.'s Crown forests and given access to the decision-making process through an administrative structure that is designed to ensure public participation.

4.3 A new structure

The Commission believes that the current administrative arrangements are inadequate for public involvement in the development and implementation of forest practices. The desired solution is to redesign the policy network* to provide an opportunity for greater participation in forest practices and to encourage a sense of ownership of the result. Public participation in the decision-making process may also help to defuse much of the controversy and social divisiveness that currently surrounds forest practices.

This conclusion is based on the apparent inability of the current power holders, notably the Ministry of Forests and the timber industry, to provide opportunities for broader participation in the decision-making process. Enhanced stewardship and integrated resource management* are both predicated on the idea that the forests provide a wide range of values to society, and this requires the meaningful input of all stakeholders*. The current system of public notification and consultation is often treated in a token fashion and does not achieve the goal of meaningful input. The Commission is also concerned that the current administrative arrangements lack sufficient checks and balances to ensure that the full range of forest values receive recognition in the choice and application of forest practices.

The Commission has reviewed a number of options that could provide a greater public participation in administration of forest practices. These alternatives included the existing Ministry of Forests, community resource boards, a Ministry of Renewable Natural Resources, new powers for existing regional districts, and a provincial Forest Practices Board. It is acknowledged that these alternatives are not mutually exclusive.

Different stakeholders* told the Commission that the Ministry of Forests should not be the principal administrative body for the Forest Practices Code. The Ministry is viewed to have a credibility problem because of its perceived bias towards timber production. It was suggested that the Code could lose broad stakeholder support if developed and implemented by the Ministry.

The Commission believes that commu-

nity-based organizations, such as regional districts or resource boards, have an important role in forest management but they should not be the principal administrative bodies. There is a risk that these organizations would operate in isolation and may promote forest practice standards that were not in the province's overall best interest. As a result, the Commission reiterates its belief that community-based organizations should have an advisory role in forest practices.

In *The Future of Our Forests,* the Commission recommended that a Ministry of Renewable Natural Resources be established. The Commission continues to believe that this recommendation, if implemented, would substantially improve the province's approach to integrated resource management* of all forest values. Such a ministry, however, would not necessarily improve the public's perception of the credibility of forest practices.

In the final analysis, the Commission believes that the establishment of a provincial Forest Practices Board reporting to the Cabinet Committee on Sustainable Development through the Minister of Forests[11] is the best way of providing a balanced decision-making process that is accountable to the public. This Board can be seen as the equivalent of a board of directors who are responsible for representing the public (or shareholders) and overseeing the performance of other agencies that implement forest practices. The Board would also provide a forum for the discussion of alternative viewpoints and could have similar legal powers as the newly established Commission on Resources and Environment. The inclusion of the Board into the generic model for timber harvesting practices is shown in Exhibit 6.

A Forest Practices Board would be able to achieve three important tasks in the framework of the Code. First, it would be viewed as a credible, non-advocacy public institution. Second, it would give all stakeholders* a meaningful opportunity to participate in the decision-making process. Finally, it would have the mandate to provide for an integration of all values to achieve enhanced stewardship of B.C.'s forests.

The Minister would appoint a number of directors to the Board to represent the interests of society as a whole.[12] This would include representatives from the following stakeholders*: Ministry of Forests; Ministry of Environment, Parks and Lands; timber processing industry; independent loggers; unions; the fishing industry; ranchers; aboriginal groups; environmental groups; outdoor recreation groups; wildlife and fishing groups; and local government.

The Forest Resources Commission recommends that:

10. ***A Forest Practices Board be established by legislation. The Board would report to the Cabinet Committee on Sustainable Development through the Minister of Forests. The Minister would appoint a number of directors to the Board to represent the interests of society as a whole.***

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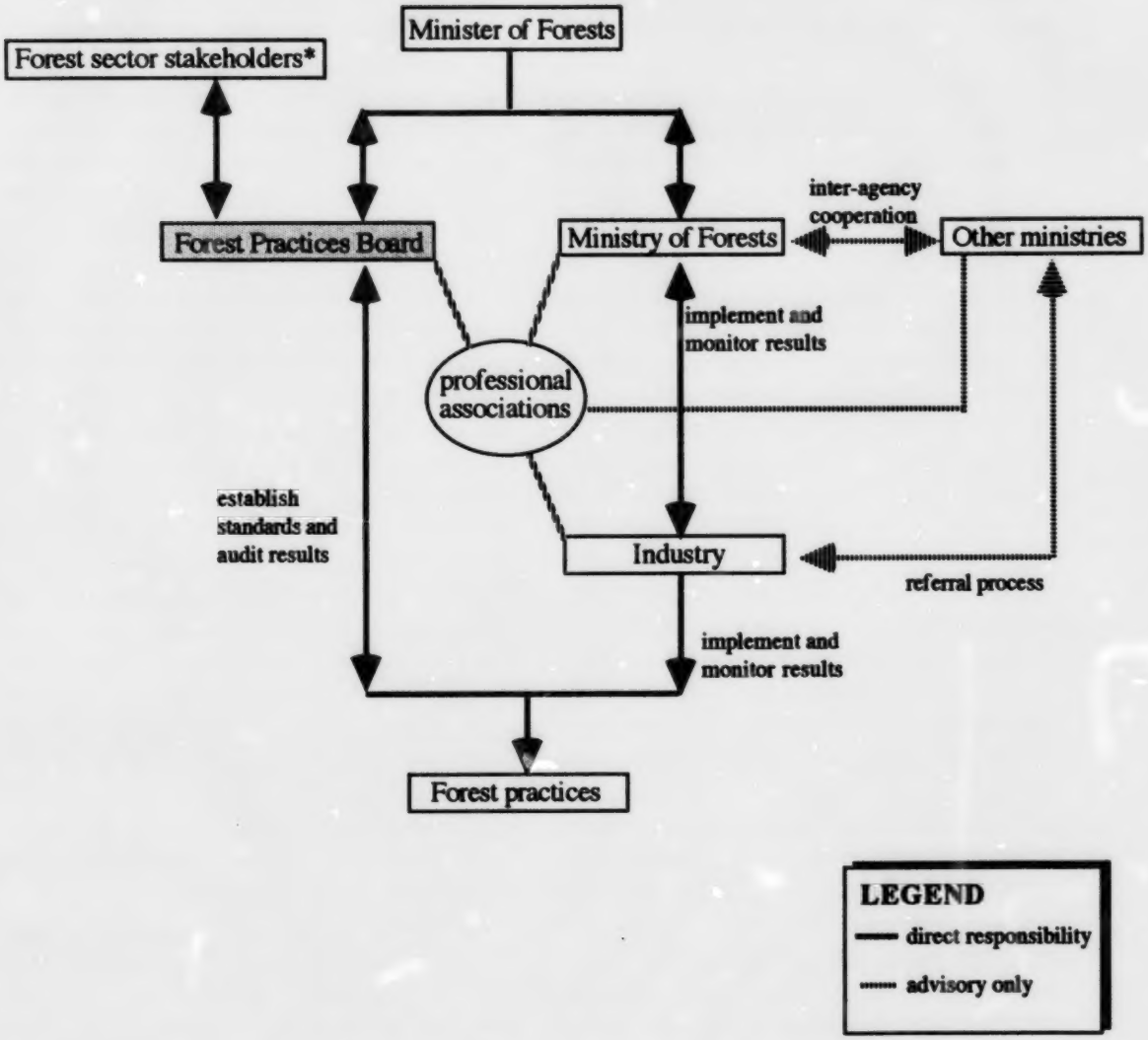
[11] Or under the structure proposed in *The Future of Our Forests* the Board would report to the Minister of Renewable Natural Resources.

[12] The powers and responsibilities of the Board are described in later sections.

Exhibit 7 - Redefinition of the policy network* for timber harvesting



Note: This diagram is for illustrative purposes only.

5. Independent audits

Many different stakeholder* groups support a role for independent audits* of B.C.'s forest practices. In *The Future of Our Forests*, the Commission recommended the establishment of a system of independent audits* to assess performance and to publicize the results of forest management practices to a broad audience. This recommendation stemmed from the important role of audits in our society as a means of checking compliance with established standards — for example, the financial audits are an important part of public corporations because of the distinction between management, owners and lenders.

Audits can provide control and credibility in the administration of B.C.'s forests. There are three types of control. First, preventive control* occurs because managers perform their tasks more carefully when they know their results will be checked. Second, audits allow detective control* on problems that have deliberately or inadvertently occurred. Finally, there is reporting control* that provides another avenue for information to be disseminated to interested parties. Audits provide credibility to the management system because interested parties know that the above controls are independently enforced.

Auditing is based on random, periodic checks by an independent body. The proponents of an audit system claim that it encourages users to develop internal prescriptions for monitoring* and review — thus the learning cycle is maintained. Auditors usually base the frequency of inspection on an assessment of the risk of noncompliance, so the process can be undertaken efficiently and in a cost-effective manner. It also helps create a climate of public disclosure through the publication of audit reports and a high level of personal accountability – and empowerment – that can be enforced through strict penalties for noncompliance.

A number of questions need to be resolved before audits become an effective part of the administration of forest practices. Who will do the audits? How will the auditors be paid and how will they maintain their independence (credibility)? What will be audited? How do the audits fit into other functions of administration? How will the results be disseminated and what is the public's role in the audits? The following sections will address these questions.

5.1 Independent auditors

The credibility of the auditors is the crux of the audit system. If people do not trust the auditors, they will not believe the controls discussed above are really in place. In the Commission's public consultation process, there was a strong consensus that the auditors had to be independent of both the Ministry of Forests and the timber industry*. Many stakeholders*, including some industry representatives, believe that the auditors must be, and must be seen to be, independent of the existing power structures. It was generally agreed that the existing audit arrangements[13] or a new audit branch in the Ministry of Forests would not be acceptable.

The Commission has looked at other audit arrangements in society. A good analogy for forest practices is the financial sector, where audits are carried out by Chartered Accountants who are individually licensed and policed by various provincial associations. Financial accounting and the use of audits have evolved over several centuries and a comprehensive system of checks and balances has been developed within the accounting profession. The financial audit model is based on individual accountability, hence individuals are licensed

[13] The Ministry of Forests currently audits the practices of the timber industry on major licences and audits itself on the Small Business Forest Enterprise Program.

and accounting firms must be partnerships with internal controls[14] to avoid conflicts of interest.

Auditing forest practices is complicated by the involvement of different professional associations (e.g., Association of B.C. Professional Foresters, Association of Registered Professional Biologists, B.C. Institute of Agrologists, and the Applied Science Technologists and Technicians of B.C.). As discussed earlier, the memberships of different associations are responsible for different types of forest activities. The goal is to include all activities within the Code, so it would be inappropriate to give any single profession precedence over all audit responsibilities.

The Commission believes that market forces will create an independent audit industry in B.C. In fact, there is evidence some timber companies are already employing consultants for environmental audits, and some consultants are already gearing-up in expectation of increased business opportunities for auditing forest practices. This emergent industry can be harnessed to provide independent audits of forest practices through judicious regulation. It is essential that the firms be licensed by the Forest Practices Board to provide the auditing service; the principal consultants should be licensed members of a self-regulating professional association; the audit procedure should be clearly specified; and there should be periodic checks of the auditors to ensure compliance.

One of the more controversial issues is who should pay the auditor's fees and whether this affects the auditor's credibility. The financial auditor is paid by the client, but he or she is considered an independent contractor serving many interested parties rather than an agent of management. Likewise in forest practices, the auditor has a role in protecting the public interest but will also provide a valuable service to the organization being audited.

The most cost-effective solution is to capture the inherent self-interest of all parties involved. An organization that pays the auditor's fees will have a financial incentive to ensure that the audit is carried out efficiently and effectively. The auditor who risks losing licensing privileges will have an incentive to remain independent. The Forest Practices Board, as the licensing agency, will have an incentive to periodically check the performance of the auditors to assess standards of practice. The self-regulating professions would have an incentive to ensure the expertise of their licensed members. The combination of these different incentives would help ensure a system of independent audits.

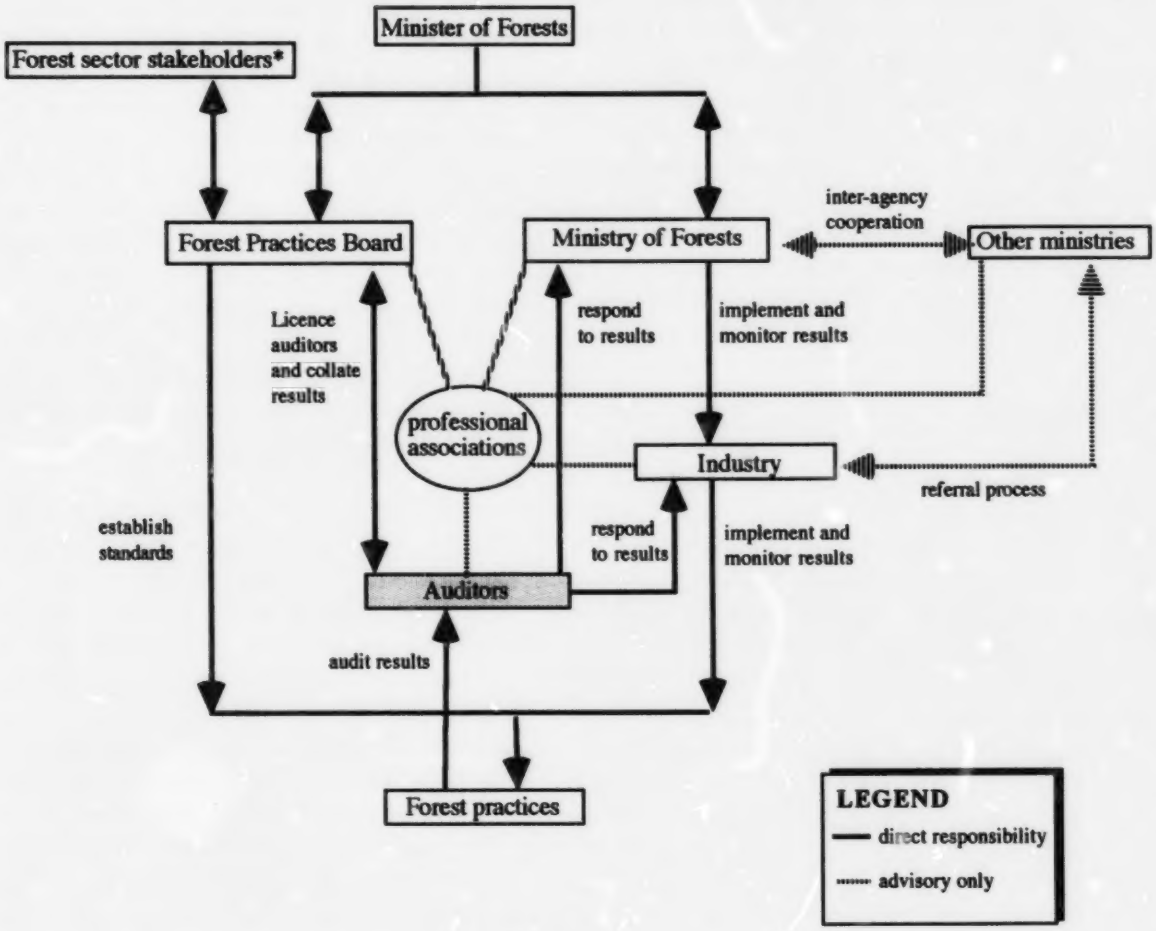
Under the proposed system (see Exhibit 8), the Board should be responsible for licensing consulting firms as forest practice auditors. The Board would periodically assess the performance of the licensed auditors. The licensed firms would be required to employ staff who are registered members of a self-regulating profession. The audit procedure would be clearly specified. The audits would be paid by the organization being audited.

The Forest Resources Commission recommends that:

11. ***The Forest Practices Board be given the mandate to establish a system of independent audits.***
12. ***Audits be paid for by the organization being audited.***

[14] In accounting firms, there must be a separation between the public accounting services (audits and related

Exhibit 8 - Checks and balances through independent audit



Note: This diagram is for illustrative purposes only.

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services, taxation advice and bookkeeping) and ancillary services (management consulting, trustee in bankruptcy and electronic data processing). As a result, ancillary services are usually performed as a separate department, an affiliated organization or non-affiliated organization.

* defined in glossary

5.2 The audit system

The Commission supports the viewpoint that a new audit process cannot be an add-on to the existing management regime. Instead, the Commission believes that audits should be a part of a new approach that is effective and efficient with sufficient controls to protect the interests of various stakeholder* groups. There are three critical components to this new approach: division of tasks between management agencies; a focus on results rather than process; and a clearly defined audit standard.

5.2.1 Division of tasks

As mentioned previously, there are a large number of organizations and individuals that are actively involved in, or have influence on, the management of B.C.'s forests. These include the various government departments, the forest industry, professional associations, local governments, ranchers, environmental groups, native peoples, woodlot owners and other special interest groups. These organizations and various individuals are considered to be stakeholders* in forestry issues, and each has an important role to play in the management system.

The Commission believes that the introduction of independent audits should be seen as an opportunity to clearly define the role of various stakeholder* groups. One of the key objectives is to provide a distinction between regulatory and operational functions — an organization should not audit its own activities because of the inherent conflict of interest. It is also important to develop a total quality management* approach with systematic incentives to develop an iterative approach to learning — this can only be achieved when organizations implement their own internal monitoring systems* (i.e., maintain a continuous learning circle).

Exhibit 8 provides a map of the policy network* after the introduction of independent auditors. This arrangement will result in a transfer of auditing responsibilities from the Ministry of Forests and other government agencies to independent auditors. The auditors will have dual reporting responsibility to the client organization and the Forest Practices Board — who ultimately report to the Minister of Forests and various stakeholder* groups. Industry and the government departments will continue to implement and monitor* forest practices, although it is envisaged that the Ministry of Forests would eventually transfer a large degree of monitoring* responsibility to the timber industry (see Section 6 — Compliance with the Code).

The Commission recognizes that this new arrangement must be implemented gradually. Once the Forest Practices Board is established, the Ministry of Forests should transfer all its auditing responsibilities to the Board. The Ministry should also be able to gradually reduce its monitoring* of major licensees as firms pursue a more proactive role in complying with the Forest Practices Code and their satisfactory performance has been confirmed by audit (see Section 6.4).

Ministry staff displaced by this arrangement could be expected to gain employment with the new auditing firms, since the new arrangement is simply a reallocation of management functions. The introduction of the Code is also likely to create a demand for internal audits as an internal control system by the Ministry and the timber industry aimed at reducing the cost of independent audits — this will create additional employment opportunities for auditors.

The transfer of responsibilities would free up sufficient resources for the Ministry of Forests to provide leadership to the forest sector by concentrating on three important roles. First, it would

continue to plan, implement, monitor* and internally audit[15] the SBFEP*. Second, it would continue to licence firms to operate on Crown land and monitor the licensees' compliance with contract obligations. Finally, the Ministry would continue its corporate functions in stumpage appraisal*, research, silviculture*, etc.

The Forest Resources Commission recommends that:

13. *The current auditing responsibilities of the Ministry of Forests and other government agencies be transferred to the Forest Practices Board to be carried out by independent auditors.*
14. *The Forest Practices Board maintain a list of approved audit firms, and periodically verify a firm's right to practice.*

5.2.2 Focus on results

The Commission has heard strong support for the idea of a visible, results-oriented code. Many groups and individuals criticize the current management system because the success of an activity is often measured by the way it is implemented rather than the ultimate result (i.e., the process is the overriding criterion). A results-oriented code would place greater responsibility on the individual and organization to achieve the pre-determined results, which could then be independently audited.

An example may help clarify the distinction between results and process. A results-oriented code might state that road construction activities shall not affect the water quality to the extent that it adversely affects human consumption or fish species.[16] A process-oriented code would prescribe the construction method, the culvert spacing and the minimum distance from the road to the stream.

The choice between results and process (or a combination of both) has a direct impact on the audit system. Auditors would need to measure the results so they could attest to compliance objectively. In contrast, processes would have to be documented with a proper paper trail so auditors could attest to compliance.

It is recognized that the Code will ultimately be a combination of results and processes. The results of some activities may be difficult to measure due to time-delayed effects, or the technology may not be available to measure the results. In these circumstances, the most cost-effective solution would be to prescribe the process needed to minimize the adverse consequences of the activity.

The Commission believes that a system of Generally Accepted Forestry* Principles (GAFP) should be developed to provide the framework for audits. This would be the corollary to financial audits that are conducted in accordance with Generally Accepted Accounting Principles (GAAP). The content of these principles should be developed by the Forest Practices Board with participation of various forest stakeholder* groups. The principles would need to have measures and standards that can be satisfied without contention — any competent person would reach the same conclusions in a given situation. Ideally, the

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[15] Internal audits of forest practices are a supplement, rather than a replacement of independent audits. Large firms in the financial sector routinely establish internal auditing programs as a means of reducing their external audit costs.

[16] It is acknowledged that road construction activities will have some impact on water quality, but the aim is to provide a measure of the acceptable amount of disturbance.

GAFP would be results-oriented although process requirements may be relevant in some circumstances. The GAFP would provide a simple test for auditors to attest to the compliance of forest practices, and would be in addition to the legal requirements of legislation, regulations, policies, prescriptions and guidelines.

The Forest Resources Commission recommends that:

15. *The Forest Practices Board establish a system of Generally Accepted Forestry Principles (GAFP) in cooperation with various stakeholder* groups as a means of applying consistent forest practices.*

5.2.3 Audit standards

To be credible and to provide control of forest practices, the audits must be carried out according to established standards. The financial sector has developed a comprehensive system of standards that are intended to guide the auditor, rather than prescribe detailed auditing procedures — thus professional discretion is maintained. Exhibit 9 provides a list of audit standards modified from the accounting profession.

The Forest Resources Commission recommends that:

16. *The Forest Practices Board adopt and enforce audit standards as a means of maintaining the control and credibility of the audit system.*

5.3 Public disclosure

Public disclosure of audit reports is essential to provide control and credibility of forest practices. There are potentially a large number of audiences for the audit report information, such as the tenure* holder, local interest groups, government agencies and customers. There are equally a large number of avenues to disseminate the audit information.

The underlying principle is that there should be full public disclosure of the audit reports. This is compatible with the recent announcement of the *Freedom of Information Act*, which commits the government to open access to information. Public disclosure of audit information can be enforced through the dual reporting responsibility of the auditors to the Forest Practices Board and to the client organization. The Forest Practices Board should be responsible for collating the various audit reports and distributing the reports to interested stakeholders*. An annual report on management practices should be given to the Legislature through the Minister. Tenure* holders and the Forest Practices Board should produce simplified audit reports for dissemination to the general public.

The Forest Resources Commission recommends that:

17. *There be full public disclosure of all audit reports by the Forest Practices Board by the distribution of reports to interested stakeholders* and by an annual report on forest practices to the Legislature through the Minister.*

Exhibit 9 - Example of audit standards

GENERAL STANDARDS

The examination should be performed and the report prepared by a person or firm licensed by the Forest Practices Board as having adequate technical training and proficiency in auditing. The examination should be performed with due care and with an objective state of mind.

FIELD WORK STANDARDS

1. The work should be adequately planned and properly executed. If assistants are employed they should be properly supervised.
2. There should be an appropriately organized study and evaluation of those internal controls on which the auditor subsequently relies in determining the nature, extent and timing of auditing procedures.
3. Sufficient appropriate audit evidence should be obtained; by such means as inspection, observation, enquiry, confirmation, computation and analysis, to afford a reasonable basis to support the content of the report.

REPORTING STANDARDS

1. The scope of the auditor's examination should be referred to in the report.
2. The report should contain either an expression of opinion on the state of forest practices or an assertion that an opinion cannot be expressed. In the latter case, the reasons therefore should be stated.
3. Where an opinion is expressed, it should indicate whether the forest practices reviewed fairly represent the state of all forest practices in accordance with generally accepted forestry principles. The report should provide adequate explanation with respect to any reservation contained in such opinion.
4. Where an opinion is expressed, the report should also indicate whether the forest practices reviewed are consistent with the practices of preceding periods. Where the practices are not consistent, the report should provide adequate explanation of the nature and effect of the inconsistency.

Source: modified from the Canadian Institute of Chartered Accountants Handbook (Section 5100) in Anderson (1977).

6. Compliance with the Code

Throughout its public consultation process, the Commission has heard that the Code can only achieve good forest practices in a management system where there are appropriate incentives, penalties and the willingness to use both of them.

Many groups and individuals are dissatisfied with the existing system. Some groups claim that there are no incentives to go beyond the legislated minimum requirements. Others believe that the existing penalties are not a deterrent to poor practices and are often unrelated to the severity of the infraction. Most people believe that penalties or incentives are not adequately applied because of a lack of administrative and/or political will. The following sections will deal with these issues.

6.1 Incentives

The Commission recognizes that one of the best ways to achieve enhanced stewardship of B.C.'s forests is to tap the powers of self-interest. If certain standards are mandated and enforced through penalties, then they become the 'ground floor.' To get beyond this level, there must be incentives for the organizations and people involved.

Different incentive packages were evaluated concerning their feasibility and relevance to the Forest Practices Code. Three incentives are thought to offer a realistic goal to motivate better performance of timber licensees. These are increased flexibility and efficiency; modified licence conditions; and a marketing seal. The first two incentives can be administered by the Ministry of Forests, while the third could be granted by the Forest Practices Board based on the results of independent audits.

The staff of government agencies also need incentives to strive for better performance under the Forest Practices Code. Given the constraints of public service employment conditions, one feasible solution is to have compliance with the Code included in their performance assessment criteria — thus, better performers may be eligible for quicker promotion or increased pay.

6.1.1 Increased flexibility and efficiencies

A potential incentive is the possibility of increased operating flexibility. Under the current arrangements, a licensee must have the approval of the Ministry of Forests and other agencies prior to any activity and is then subject to on-going monitoring* and follow-up audits. There are concerns that the current administrative system is not based on an assessment of the costs and benefits of various rules. Over the last five years, a large number of new licensee requirements have been added, which is a heavy financial burden for licensees.[17]

A licensee that is practicing superior stewardship should be able to obtain quicker approvals and reduced monitoring* and audit*. This could result in increased internal efficiencies and reduced administrative costs for the licensee without lowering forest practice standards. The concept of total quality management* requires an organization to take responsibility for its actions. For timber licensees, it may be cheaper and more

[17] See the background study by Bowell Consultants Ltd.

efficient to do the job right the first time, rather than be constantly monitored* by the various ministries. Likewise, the ministries would assess the risk of failure and concentrate their resources on the poor performers.

To be equitable for all licensees, there must be an objective measure of performance. The independent audits and the licence deposit assessment (see Section 6.5) would provide a procedure for ranking the performance of various licensees.

The Forest Resources Commission recommends that:

18. *The Ministry of Forests allow increased management and operating flexibility for the better performers as determined by independent audit and concentrate its monitoring* efforts on the poorer performers.*

6.1.2 Licence conditions

In *The Future of Our Forests*, the Commission recognized that enhanced stewardship was closely related to the issue of tenure*. It concluded that self-interest was a significant motive to provide the necessary investment in the forest, and this could only be achieved through secure, area-based tenure. For this reason, the Commission recommended the use of resource management agreements (RMAs) to provide legally-enforceable property rights to all licensees.

Licensees should benefit from any work that results in incremental yield* of the resources. For example, it is claimed that a timber licensee should be able to gain an increase in the allowable annual cut* (AAC) by practicing intensive silviculture*. Also, incremental yield* should not be subject to royalty* or stumpage*.

The Forest Resources Commission recommends that:

19. *The Ministry of Forests give better performers the incentive to utilize any incremental yields they have created without paying full royalty or stumpage*.*

6.1.3 Marketing seal

It has been suggested that a Forest Stewardship Seal could be produced and used by companies that constantly meet or exceed the standards of the Forest Practices Code. Under this proposal, recipient firms could use the seal in their sales and marketing efforts, especially in environmentally-conscious markets like Europe. The seal would need to be internationally recognized to be an effective marketing tool.

The Commission believes that the Forest Stewardship Seal could provide an incentive for higher performance. Obviously, firms are looking for any initiative that could improve their profitability and market share, especially if it can help mitigate the threats of product boycotts in some markets. To act as an incentive to companies, the seal would have to have prestige and stringent granting requirements. Following independent audit

* defined in glossary

of forest practices, the Forest Practices Board could award the seal to those licensees that satisfy prescribed standards of excellence. Companies that failed to meet these standards on an annual basis would have their seal privileges removed.

The Forest Resources Commission recommends that:

20. ***The Forest Practices Board award an official Forest Stewardship Seal to licensees who consistently meet or exceed the established high standards verified by an independent audit.***

6.2 Penalties

The existing legal framework for forest practices has a wide range of penalties for infractions by licensees. The type of legal remedy varies from fines, infringement tickets, letters to comply, suspension and cancellation of licences and even imprisonment. These penalties have legal authority in various Acts, regulations and contract documents. Despite the existence of these legal remedies, the Commission has heard demands for greater use of penalties to enforce the Forest Practices Code. Reasonable penalties have to be assessed, enforced and publicized in order to help restore the public credibility of forest practices.

The Commission believes that public uncertainty about existing legal remedies is due to the inconsistent application of the penalties in the past and a lack of publicity of the remedies applied. The recommendations for uniform application (see Section 6.3) and appeal mechanisms (see Section 6.4) will help clarify the situation to some extent.

The penalty system should be graduated in recognition of the standards of due process. Individuals who do not comply with the Code should be dealt with by warnings, then fines and finally the loss of the right to operate (see Section 6.6). Infractions committed by firms should be dealt with by increasingly severe fines and finally the cancellation of licences. Under a modified deposit system, funds would be able to remedy any environmental consequences of the infraction (see Section 6.5)

Under some circumstances, it may be necessary to penalize the staff of the Ministry of Forests for infractions of the Code on the SBFEP[9]. This can be achieve in two ways. First, compliance with the Code should be a condition of employment and any infractions could be penalized by a graduated system of warning letters, personal fines and dismissal as the ultimate sanction. Second, the professional staff who commit infractions would be subject to discipline by their professional organizations, which would adversely affect their employment prospects.

Fines collected for violation of the Forest Practices Code should be placed in a special account. The existence of this account will increase awareness of the Code and the government's commitment to enforcing compliance with the Code. The funds collected could be dedicated to environmental restoration and public education programs.

The Forest Resources Commission recommends that:

21. ***A graduated penalty system be designed to match the penalty with the severity of the infraction for those who are subject to the provisions of the Forest Practices Code.***
22. ***The penalty system be reviewed to ensure consistency of application.***
23. ***All fines be deposited into a special purpose fund dedicated to environmental restoration and public education programs.***

6.3 Uniform application of incentives and penalties

The Commission believes that the Forest Practices Code should be implemented in a fashion that encourages the appropriate use of incentives and penalties. The Code will be applied by people to people, so its success will depend on the usual human motivations and weaknesses. Traditionally, various factors have affected the application incentives and penalties, such as past relationships, lack of individual accountability and outside interference. Compliance with the Code can be made more effective by formalizing the administrative system and creating a system of internal and external controls.[18]

The current ad hoc response to the use of incentives and penalties is due in part to the unclear demarcation of responsibility between the districts, regions and branches in the Ministry of Forests. Much of the authority to apply these measures should be delegated to district staff because they are involved with the continual monitoring* of forest practices and compliance with licence conditions. The districts should use their own monitoring and the results of the independent audits* to determine whether penalties or incentives should be used.

The Commission has heard concerns about the enforcement of guidelines becoming too rigid. In the past, there has been a tendency for all guidelines to be treated as rules, thus eliminating any advantages that result from professional accountability. It is recognized that the current administrative system is highly regulated and has evolved without an assessment of the costs and benefits of various rules and regulations. To help mitigate against unproductive regulation, the Commission believes that increased licensee accountability can be achieved through appropriate use of incentives and penalties.

To ensure uniform application of incentives and penalties, consideration should be given to establishing a new compliance branch within the Ministry of Forests. This branch could be responsible for staff training and review of procedures to provide an internal control on the application of incen-

[18] For example, internal controls could be provided by a Compliance Branch within the Ministry of Forests, while external controls could be provided by the Forest Practices Board, right to appeals (see Section 6.4) and independent audits.

* defined in glossary

tives and penalties. The branch would not be responsible for developing new regulations under the Forest Practices Code (see Section 7.3).

The Forest Resources Commission recommends that:

24. *To the maximum extent possible, operational incentives and penalties be managed at the district level.*
25. *The Ministry address the need for staff training and review of procedures to provide an internal control on the application of incentives and penalties.*

6.4 Appeals

The internal controls provided by the Ministry of Forests must be balanced by an external authority to ensure that Ministry staff are held accountable for their decisions. This balance can be achieved by providing an avenue of appeal regarding the use of incentives and penalties.

The Commission has reviewed various appeal mechanisms. It has concluded that the Forest Practices Board would be best suited to provide an independent body to hear appeals. A tribunal of suitably qualified professionals (i.e., registered members of a self-regulating profession) could be struck under the Board's authority to hear any appeal requests. The Forest Practices Act would prescribe the procedures for hearing evidence, standing* and implementation of rulings. Appeals of the tribunal decision may be made to a sub-committee of the Board itself, which would be the highest level of administrative appeal.

The Forest Resources Commission recommends that:

26. *The Forest Practices Board be given the authority to empower a professional tribunal when necessary to hear appeals concerning the application of incentives and penalties by the Ministry of Forests' staff.*
27. *Appeals of the tribunal's decisions may be heard by a sub-committee of the Forest Practices Board.*

6.5 Licence deposit system

The Commission has heard some concern expressed about the government's exposure to financial liabilities that result from timber harvesting practices. These liabilities include the cost of reforesting logged areas to a free-to-grow* standard, road maintenance costs and the possibility of environmental hazards such as landslides or road washouts. Currently, the licensee is responsible for these liabilities as a contractual obligation, but the Crown is responsible if a firm goes bankrupt.

The *Forest Act* and its regulations presently require a licensee to make a deposit that is conditional on meeting licence requirements (this deposit is calculated at a rate of \$0.10 per m^3 of AAC* for TFLs* and \$0.15 per m^3 of AAC for FLs*). Although this

deposit is a nominal amount, a licensee cannot operate if the deposit is used by the Ministry of Forests for remedial work — in fact, the ministry can collect any amount it requires by constantly removing the deposit and making the licensee replenish the account.

The Commission believes that the deposit system should explicitly recognize a licensee's stewardship performance and the likely cost of any remedial work. Liability insurance and other market-based pricing systems were evaluated, but rejected because of the small market size and the high cost of determining the site specific risk. Instead, a simple administrative system could be developed to provide an assessment of the liability based on the company's historic performance, the terrain conditions and the Pre-harvesting silviculture prescription.* This system would be analogous to the administratively determined bond used in B.C.'s mining industry.

For some licensees, the bond may be a large amount of money and this would reduce the financing arrangements of the firm. To provide some flexibility for firms, a range of financial instruments could be accepted such as cash, letter of credit, lien on assets, or third-party bonding service.[19] Although this may be viewed as an additional cost burden on industry, the alternative would be for the government to bear the cost of these liabilities.

The system would give companies an incentive to strive for better performance. A history of good performance would reduce the size of their outstanding liability and the financial cost of the bond. Decisions made concerning the bonding arrangement could be appealed to a professional tribunal empowered under the Forest Practices Board.

The Forest Resources Commission recommends that:

28. ***The licence deposit system take into account the licensee's performance and the cost of remedial work.***
29. ***Decisions regarding the assessment of the deposit amount be subject to appeal to a professional tribunal established under the Forest Practices Board.***

6.6 Licences, certification and training

The Commission believes that compliance with the Forest Practices Code should be both an individual and corporate responsibility. The existing legal framework is designed to regulate the activities of firms through a licensing system (e.g., Tree Farm Licence*, Forest Licence*, Woodlot licence*). As a result, many incentives and penalties are directed towards firms rather than individuals — imprisonment and personal fines are two notable exceptions. However, the success of the Forest Practices Code will ultimately depend on the men and women who apply its prescriptions and guidelines to the forest.

Currently, the only individuals that can be held accountable under the present admin-

[19] Regardless of the instrument, this financial liability would increase the cost of capital for the firms.

istrative system are the members of the self-regulating professions. A registered professional forester is personally responsible for any plans or prescriptions he or she signs and seals. Plans or prescriptions are only as good as the people who implement them, but unfortunately these people are often untrained and it may be difficult to hold them accountable for any breaches of the Code. This situation can be rectified through licensing, certification or training.

In some jurisdictions, a system of individual licensing is used to make individuals accountable for their actions. All non-professional personnel are required to have an operator's licence, which must be renewed on a periodic basis. This approach could be adopted in B.C. as a means of ensuring individual compliance with the Forest Practices Code. Licensing all non-professional personnel would be a large and expensive task, but it could help create a sense of personal accountability in the forest sector.

In *The Future of Our Forests* the Commission recommended that government, industry and labour organizations should begin a voluntary forest training system that could eventually lead to an industry certification program. It was originally hoped that the industry would undertake certification in its own self-interest, especially if firms face the prospect of failing audits* due to operator ignorance or incompetence. However, some of the industry has indicated a reluctance to pursue voluntary training and certification programs.

The Commission believes it is now appropriate to establish a mandatory training and certification program for those people who have the greatest impact on the forest. This includes fallers and all machinery operators. The Ministry of Forests and the Workers Compensation Board should work in conjunction with industry to develop appropriate certification standards. All existing personnel would be 'grandfathered' into the certification program, while new personnel would require training and certification. The certification program should be administered on a joint venture basis[20] between the Ministry of Forests and industry.

The Forest Resources Commission recommends that:

30. ***The Ministry of Forests establish a system of individual licensing for all personnel who work in the forests, except members of a self-regulating profession.***

31. ***A mandatory training and certification program for compliance with the Code be established for personnel who have the greatest impact on the forest (existing personnel would be 'grandfathered' into the program). The program should be a joint venture between industry and the government.***

[20] A suitable model may be the industry training teams used in various states of Australia and parts of Scandinavia. These teams are often staffed by experienced industry personnel, jointly funded by industry and the government and delivered at Community Colleges.

7. Public participation

Public participation has been a recurring theme throughout the Commission's discussions on the framework for a Forest Practices Code. People have expressed dissatisfaction with the traditional decision-making processes and they want to take greater control over circumstances that affect the management of the forests.

The elements of an effective public participation process were identified in *The Future of Our Forests* (see Exhibit 10). These elements are particularly relevant to the development and implementation of the Forest Practices Code, and have been used in the formulation of the Commission's recommendations in previous sections.

Public participation has been an implicit objective in the Commission's recommendations. However, there are three avenues of participation that need further clarification: the role of the Forest Practices Board; avenues of appeal; and the development process.

7.1 Forest Practices Board

The Commission believes that current forest practices do not provide adequate processes for effective and meaningful contribution by various stakeholder* groups. In Section 4, the Commission recommended that a Forest Practices Board should be established to create a sense of ownership for all stakeholders. This board would be given the mandate to represent the interests of the stakeholders — there is an obvious analogy with the corporate model of a board of directors representing the interests of the shareholders.

The board is an addition, rather than a replacement, for the Minister's role in representing the interests of the general public. By creating a dual reporting structure (see Exhibit 5), the Minister of Forests will have better access to information because the board will act as a semi-autonomous forum for differing viewpoints on forest practices.

This new administrative arrangement will

Exhibit 10 — Criteria for an effective public participation process

a.	It must have a legal mandate.
b.	The process must be easy to understand.
c.	Those involved must be accountable.
d.	Public access must occur at key levels of the process.
e.	Provision must be made to notify interested parties.
f.	People must have access to information.
g.	Participants must have adequate resources.
h.	Written reasons for decisions are essential.
i.	There must be a conflict resolution mechanism.
j.	There must be an appeal process.

Source: *The Future of Our Forests*, page 112.

* defined in glossary

also help clarify the role of the Ministry of Forests. The Ministry currently has a number of conflicting mandates, such as the SBFEP*, licensee regulation and protecting the interests of stakeholder groups. The separation of these mandates will provide the Ministry's staff with a clearer sense of purpose.

The ultimate beneficiary of the new administrative framework will be the general public. There are clear signs that a majority of B.C.'s population does not have a daily interest in forest issues. However, they do want reassurance that the province's forests are well managed and the management system has sufficient safeguards to protect their interest. The proposed framework for a Forest Practices Code can achieve this objective through the Forest Practices Board, independent audits* and a system to ensure compliance with Code.

7.2 Community boards

The role of communities in forest management and land use planning is still in a process of evolution. In two previous reports[21], the Commission outlined formal mechanisms for providing meaningful involvement for people at the local or district level. It is the Commission's view that community participation is essential at the planning and management levels, but may not be required at the technical or operational level.

The five-year Management and Working Plans* for Tree Farm Licences* and Timber Supply Areas* are currently the main avenues for community participation. The equitable treatment of various community interests in these plans can help ensure that forest management is undertaken on an integrated resource basis.

The Commission on Resources and Environment has the mandate to develop community based participatory processes to consider land use and related resource and environment issues. There are a number of specific issues to be resolved: the topics to be covered; the geographic area; the interests represented; selection of representatives; decision-making authority; and resolution of disagreements. CORE hopes to address these issues over the next 12 months.

It is important that the framework that CORE develops for community involvement is consistent with the Forest Practices Code and its administrative processes. This will require close cooperation between the Forest Practices Board and CORE.

The Forest Resources Commission recommends that:

32. ***The Forest Practices Board and the Commission on Resources and Environment work in cooperation to ensure that there is meaningful community involvement with respect to the Forest Practices Code.***

[21] *The Future of Our Forests*, pages 14 - 21 and *Land Use Planning for British Columbia*, page 15.

7.3 Avenues of appeal

The right to appeal is an important part of any public participation process. It is a recognition of an individual's or group's legitimate role in the decision-making process.

The challenge is to determine how the appeal mechanism discussed in Section 6.2 can be extended to stakeholders* or members of the general public. People have expressed concern that appeals could be used as a disruptive technique by individuals or groups who want to stop all intrusive forest practices. There is also a concern that appeals could be expensive and time-consuming, and may not contribute to the welfare of society. A contrary opinion claims that the appeal process should not be limited in scope or by standing*, otherwise it automatically limits the role of public participation. The crux of this issue is the definition of legitimate grounds of public appeal.

The Commission believes that the avenues of appeal should be available to the widest segment of the population. The Forest Practices Board should have a legislative mandate to hear appeals from any concerned individual or group relating to the implementation of the Forest Practices Code.

An open process of public appeals will provide an avenue for people to express their opinions on forest practices. This should be viewed as a productive "escape valve" for public information and dissent, and it will assist in the iterative learning process required for progressive forest management. It is hoped that a public appeal process will help minimize the current disruptive mechanisms used for stakeholder dissent (i.e., civil disobedience or confrontation).

The Forest Resources Commission recommends that:

33. ***The Forest Practices Board be empowered to hear appeals concerning decisions made under the Forest Practices Code.***

7.4 Development process

The process used to develop the Forest Practices Code will be critical to its ultimate success. Mistakes, omission or oversights may leave an indelible stamp on the Code or any associated institutions and research may change the approach to certain forest practices. As stated earlier, the Code is a social as well as technical issue, so its development must involve interested individuals and groups.

The Code must be developed in an open and verifiable manner to be credible. In the first instance, it will be developed by the

* defined in glossary

interdepartmental Forest Practices Code Steering Committee. Once established, the Forest Practices Board would have an ongoing mandate to get the Code implemented in a timely manner with broad-based support from stakeholders*. A number of public input processes could be used, including workshops and seminars, to gain input from the largest number of interested people.

The Commission believes that the Code must be dynamic and capable of adjustment over time. It must be a "living entity" that can incorporate or be compatible with the requirements of new legislation, new technical information and changing societal values. The Forest Practices Board can help ensure the Code's dynamism by listening to stakeholders* and by being cognizant of evolving forest management techniques. The Forest Practices Board should also be legally required to review the performance and effectiveness of the Code on a periodic basis because the Code must evolve over time.

The Forest Resources Commission recommends that:

34. ***The Forest Practices Board be empowered to review the Code in cooperation with relevant government agencies and other stakeholders*, and advise the Minister accordingly.***

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Appendix 1 -Terms of reference

1. The Forest Resources Commission will, by July 31, 1992, make recommendations to the Minister of Forest and through him, the government, concerning the framework of a Forest Practices Code, including any legislation or administrative processes required to implement a code.
2. The objective of the Code is to sustain British Columbia's forests and jobs by ensuring environmentally sound forest practices and a healthy working forest. The Code will form an integral part of the government's land and resource use planning process.
3. The Code will reflect input received from the public discussion paper, entitled A Forest Practices Code, and released by the Ministry of Forests in July 1991, as well as any further consultation the Forest Resources Commission undertakes with various professional and industry associations, labour, environmental and outdoor recreation groups.
4. The Forest Resources Commission will analyse the public input to the discussion paper and publish the results of the analysis as well as the results of further consultation.
5. The Forest Resources Commission will evaluate the economic and environmental effects of its recommendations concerning a Forest Practices Code.
6. The work of the Forest Resources Commission on the Forest Practices Code should be coordinated with:
   (a) the Commission on Resources and Environment who will be responsible for proposing and implementing land use planning and related process issues for forest management; and
   (b) the Forest Practices Steering Committee who will be responsible for assembling technical data such as current forest practice standards and guidelines.
7. The Forest Resources Commission will provide recommendations regarding means to monitor effectiveness of forest practices and to audit compliance with these practices.

Appendix 2 - Participants

The following organizations made submissions to the Ministry of Forests *Forest Practices Code Discussion Paper* and/or participated in meetings and workshops held by the Forest Resources Commission.

Organizations are listed by name of organization rather than an individual representative. In the case of large organizations which sent representatives to more than one workshop only a head office location is given. In cases where smaller organizations sent representatives to more than one workshop no location is given.

Adams Lake Indian Band	Chase
Adrian, H.	Abbotsford
Alberni Environmental Coalition	Port Alberni
Alpine Club of Canada - Vancouver Island Section	Victoria
Anderson, Otto	Prince George
Antonenko, James	150 Mile House
Applied Science Technologists and Technicians of B.C.	Burnaby
Araki, Judy	Westbank
Arrowsmith Ecological Association	Errington
Arrowsmith Loggers Association	Courtenay
Association of B.C. Professional Foresters	Vancouver
Association of Professional Biologists of B.C.	Kamloops
B.C. Ministry of Energy, Mines and Petroleum Resources, Resource Management Branch	Victoria
B.C. Ministry of Environment, Lands and Parks	Victoria
B.C. Ministry of Forests	Victoria
B.C. Cattlemen's Association	Kamloops
B.C. Environmental Information Institute	Vancouver
B.C. Environmental Network Forestry Caucus	Summerland
B.C. Fishing Resorts and Outfitters Association	Kamloops
B.C. Forest Alliance	Vancouver
B.C. Forest Industry Forest Stewardship Code Sub-Committee	Vancouver
B.C. Forestry Association	Surrey
B.C. Future Forests Study Group	Vancouver
B.C. Snowmobile Federation	
B.C. Trappers Association	
B.C. Wildlife Federation	Langley
B.C. Wildlife Federation - Vancouver Island Region	Lake Cowichan
B.C. Workers Compensation Board	Vancouver
Bablitz, W.A.	Campbell River
Ballantyne, Jim	Sicamous
Barnes, Stella	Kelowna
Battersby, Keith D.	Sidney
Beaund, Janice	Surrey
Bebb, D.C.	Sechelt

Berg, Kenneth L.	Aldergrove
Bitterman, Earlene	Hudson's Hope
Blix, E.D.	Smithers
Blom, Frank	Kamloops
Boundary Forest District Regional Public Affairs Committee	Grand Forks
Bolster, Laura R.	Smithers
Bradford, C. Ronald	Richmond
Bradley, Roy and Lois	Sicamous
Briggs, George S.	Clearwater
Broughton, Heather	Shawnigan Lake
Buchanan, Melda	Comox
Bunnell, Fred	Vancouver
Burch, W.G.	Vancouver
Canada. Department of Fisheries and Oceans - Pacific Region	Vancouver
Canadian Earth Core Society	Kelowna
Canadian Federation of University Women - Environment Group	Kelowna
Canadian Forest Products Ltd.	Vancouver
Canadian Institute of Forestry	
Canadian Pacific Forest Products Limited	Vancouver
Canadian Parks Service	Calgary
Canadian Powder Company	Courtenay
Canadian Women in Timber - Kootenay Branch	Cranbrook
Canadian Women in Timber - National Board	Vancouver
Cann, Dave	Port McNeill
Cariboo Development Region Tourism Action Committee	Prince George
Cariboo Environmental Committee	100 Mile House
Cariboo Horse Loggers' Association.	Quesnel
Cariboo Lumber Manufacturers' Association	Williams Lake
Carolzfeld, W.	Nanaimo
Carrier Chilcotin Tribal Council	Williams Lake
Carrier Sekani Tribal Council	Prince George
Castle Rock Livestock Association	Quesnel
Central Coast Economic Development Commission	Hagensborg
Central Interior Logging Association	Prince George
Chambers, W.R.	Kamloops
Chester, Stan G.	West Vancouver
Chilanko Ranch	Redstone
Chilliwack Field Naturalists	Vedder Crossing
Choquette, Chris	Gray Creek
City of Castlegar	Castlegar
City of Vernon	Vernon
City of Williams Lake	Williams Lake
Clark, Gordon M.	Vancouver

Clark, William H.	Calgary
Clift, F.R.	Penticton
Coldwater Indian Reserve	Merritt
Comishin, Ryan	Victoria
Concerned Homeowners Committee of Horsefly Lake	Horsefly
Conville, Terry	Lavington
Cortes Island Forest Committee	Manson's Landing
Council of Forest Industries of British Columbia	Vancouver
Crestbrook Forest Industries Ltd.	Cranbrook
Cross, Baden and others	Sidney
Crowsnest Resources Ltd. (Shell Canada Ltd.)	Fernie
Curtis, E.N. (Ted)	Saanichton
Damer, Larry	Errington
Dell, Alderman J.W.	Williams Lake
Dempster, Beth	Vancouver
Devitt, Bruce	Vancouver
Dillon, L.S.	Youbou
Dimmer, Michael R.	Lazo
District of Coldstream	Vernon
District of Tumbler Ridge	Tumbler Ridge
Dobson, Don	Kelowna
Doherty, Michael P.	Vancouver
Doman Industries Ltd.	Duncan
Donat, Jacques	Kamloops
George Dore Forestry Services Ltd.	Westbridge
Drury, Wayne	Salmon Arm
Ducks Unlimited Canada	Kamloops
P.J.B. Duffy and Associates Ltd.	West Vancouver
Dunster, Julian A.	Vancouver
Eagle River Industries Ltd.	Powell River
East Kootenay Environmental Society	Cranbrook
East Kootenay Hunters' Association	Cranbrook
East Kootenay Share Alliance	Cranbrook
East Kootenay Wildlife Association	Cranbrook
Elias, Hans	Nelson
Ellingsen, Bruce	Manson's Landing
Enderton, Brock	Nelson
Erhorn, Walter	Williams Lake
Erickson, John K.	-
Etkin, Jack	Victoria
Evans Forest Products Ltd.	Golden

Federation of Mountain Clubs of B.C.	Vancouver
The First Nations of South Island Tribal Council	Mill Bay
Fletcher Challenge Canada Ltd.	Vancouver
Flintoft, Doug	Quesnel
Flynn, Shawn	Nanoose Bay
Forest Assembly	Victoria
Forman, Richard	Quesnel
Frank, Randy	Christine Lake
Friends of Tsitika	Courtenay
G&F Logging Co. Ltd.	Hope
Galiano Conservancy Association	Galiano Is.
Gambier Island Advisory Planning Commission	Vancouver
Gardiner, Michael	Victoria
Gore, Tom	Victoria
Graffunder, Ernie	Vavenby
Greater Ecosystem Alliance	Bellingham, WA
Habersack, Bernadette	Tomslake
Hagen, Lynn	Parksville
Haig Brown Fly Fishing Association	Victoria
Haley, D.K.	Duncan
Mike Hamilton Logging Ltd.	Courtenay
Hampton, Y.	-
Handley, D.L.	Nanaimo
Hansen, Diane	North Burnaby
Hanson, Coreen	Victoria
Hauta, H. Jean	Enderby
Heyd, Richard	Duncan
Hill, Bruce	St. Catherines, Ont.
Hodge, Lloyd	Cranbrook
Holvenstot, Susan	Courtenay
Hopwood, Allen, RPF	Brentwood Bay
Hopwood, Doug	Lasqueti Island
Houlden, Trevor	Kimberley
Howard, Roy	Dunster
Independent Timber Marketing Association	New Westminster
Interior Logging Association	Kamloops
Interior Lumber Manufacturers' Association	Kelowna
Interior Woodlot Association	Savona
International Forest Products Ltd.	Vancouver
Islands Trust	Victoria
IWA-Canada - Local 1405	Nelson

Jachimow, J.	Vernon
Jacobson Bros.	Williams Lake
Jeanes, T.G.	Kamloops
Jensen, H.P.	Mesachie Lake
Kalesnikoff Lumber Co. Ltd.	Thrums
Kamloops Forest District staff	Kamloops
Kamloops Stockmen's Association	Kamloops
Kar-Al Enterprises	Abbotsford
Kenner, W.	Delta
Kingfisher Community	Enderby
Kootenay Livestock Association	Cranbrook
Kyuquot Native Tribe	Kyuquot
Lakeland Mills Ltd.	Prince George
Landon, Dave	Port Hardy
Legge, Mr. and Mrs. R.C.	Nelson
Lehmann, Wady	Surrey
Lepetick, Mark	Quesnel
Lertzman, Ken	Burnaby
Lewis, Terry	Burnaby
Lewis, Thomas	Kamloops
Light, Peter	Sechelt
Lignum Ltd.	Williams Lake
Lind, Bob	Kamloops
Lloyd, Jean	Trail
Loring, Tom	Victoria
Lloyd, Jean	Trail
Lowe, Darren	Vancouver
Lundgren, Thomas J.	Vancouver
Lusk, Sheryl Colene	Vancouver
MacMillan Bloedel Ltd.	Vancouver
McCarthy, C.F.	Salmon Arm
McClean, Alaistair	Kamloops
McDonald, D.	Victoria
McFarland Cascade Pole Ltd.	New Westminster
McMartin, James D.	Little Fort
Malone, Phyllis	Victoria
Michalke, Herbert W.	Creston
Mitchell, Fred O.	Armstrong
Moon, Margaret	Armstrong
Moose Valley Outfitters	Germansen Ldg.

Moraes, C.	Naramata
Morice Forest District Advisory Committee	Houston
Motherwell, A.F.	Quesnel
Mountain, John C.L.	Chemainus
Muir, Bryan	Courtenay
Nak'asdli Band	Fort St James
Nature Hills Resort	Lone Butte
Nazko Band Council	Quesnel
Nechako Environmental Coalition	Prince George
Nechako Valley Regional Cattlemen's Association	Vanderhoof
Neish, Elgin	Victoria
Northern Interior Lumber Sector	Prince George
Northwood Pulp and Timber Ltd.	Prince George
Nuu-Chah-Nulth Tribal Council	Port Alberni
O'Neill, Rick	Burnaby
Osborn, Liz	Vancouver
Osborn, S.H.	North Vancouver
Outdoor Recreation Council of B.C.	Vancouver
Paddlers' Environmental Committee	Vancouver
Panum, Erik	Quesnel
Paterson, H.L.	Kamloops
Perry, Jane L.	Williams Lake
Pichugin, John G.	Abbotsford
Pope & Talbot Ltd.	Grand Forks
Powell, J.K.	100 Mile House
Porpaczy, L.J.	Victoria
Potter, Steve	Mackenzie
Priest, Alan S.	Burns Lake
Pulp, Paper and Woodworkers of Canada - Local 9	Prince George
- Local 10	Kamloops
- Local 18	Mackenzie
Quatsino Band Council	Coal Harbour
Quirk, Tom	Cranbrook
Regional District of Alberni-Clayoquot	Port Alberni
Regional District of Cariboo	Williams Lake
Regional District of Central Kootenay	Nelson
Regional District of East Kootenay	Cranbrook
Regional District of Fraser-Cheam	Chilliwack
Regional District of Fraser-Cheam - Area "B"	Chilliwack

Regional District of Kitimat-Stikine	Terrace
Regional District of Kootenay Boundary	Trail
Regional District of Mount Waddington, Regional Advisory Economic Development Commission	Port McNeill
Regional District of North Okanagan	Vernon
Regional District of Peace River	Tumbler Ridge
Regional District of Powell River	Powell River
Regional District of Thompson-Nicola	Savona
Revelstoke Environmental Action Committee	Revelstoke
Rison, Stephen W.	Dawson Creek
Ross, Tony	Queen Charlotte City
Sammuto family	Crescent Spur
Schneider, Robert	Burns Lake
Scott, Nelson George	Kelowna
Shaben, Jacqueline	Surrey
Share B.C.	Ucluelet
Share Our Forests	Cobble Hill
Share Our Resources	Port Alberni
Share The Clayoquot	Ucluelet
Sierra Club of Western Canada	Victoria
Silviculture Institute of B.C.	Vancouver
Single Tree Holdings Ltd.	Williams Lake
Skeena Round Table	Smithers
Slocan Valley Watershed Alliance	Slocan
Smith, Doug	Valemount
Smith, Eleanor W.	Victoria
Smith, Fred W.A.	Kelowna
R. Smith Logging Ltd.	Valemount
Steelhead Society of B.C.	Prince George
Steffler, Robert	Victoria
Stephen, J.M.	North Vancouver
Stevens, George J.	Forest Grove
Stoltmann, Randy	West Vancouver
Sumanik, Ken	Vancouver
Suther, Graham	Denman Is.
Szalkai, Andy	Quesnel
Terrace Salmonoid Enhancement Society	Terrace
Thiessen, Fred	Nelson
Thomson, Dr. Alan J.	Victoria
T.M. Thomson & Associates	Victoria
Thompson, P.R.	Sidney
Tin Wis Coalition	Vancouver
Tolko Industries Ltd.	Kamloops

Tourism Association of S.W. British Columbia	Vancouver
Truck Loggers Association	Vancouver
Tsuniah Lake Lodge Ltd.	Williams Lake
United Fishermen and Allied Workers' Union	Vancouver
Upper Similkameen Indian Band	Hedley
Vanderhoof Specialty Wood Products	Vanderhoof
Vanderstar, Leonard	Smithers
Van Heek, Pem	West Vancouver
Van Oldenborgh, B.	New Westminster
Vey, Ruth	Brentwood Bay
Village Bay Lakes Park Committee	Quadra Island
Village of Port Clements	Port Clements
Village of Kaslo	Kaslo
Village of 100 Mile House	100 Mile House
Volkers, B.	Lake Cowichan
von Westarp, G.	Nanaimo
Wallace, M.	Squamish
Ward, H.R.	Victoria
Weetman, G.F.	Vancouver
Wedge, Mary J.	Victoria
Weir, Ian A.	Kaslo
Welburn, G.V.	Vancouver
Welch, Marilyn	Vancouver
Weldwood of Canada Ltd.	Vancouver
West Coast Environmental Law Association	Vancouver
West Fraser Mills Ltd.	Quesnel
Western Canada Wilderness Committee	Vancouver
Western Forest Products Ltd.	Vancouver
Western Tree Seeds Ltd.	Blind Bay
Weston, Jennifer	Victoria
Weyerhaeuser Canada Ltd.	Kamloops
Whistler Foundation for a Sustainable Development	Whistler
Wight, Jim	Victoria
Williams Lake Field Naturalists	Williams Lake
Williams, Norm	Courtenay
Wilson, Walter G.	Qualicum Beach
Yalakom Community Council	Lillooet
Yalakom Ecological Society	Lillooet
Zibin, Steve	Grand Forks
Zurbrigg, Michelle	Victoria

Glossary

Allowable annual cut (AAC)
The volume of timber that may be cut each year from a forest management unit consistent with sustained yield.

Audits
The inspection or check of forest practices on a periodic or an irregular basis. Audits are usually based on a management plan (i.e. process) or a recognized result.

Biodiversity
The variety of plants, animals and other living organisms occurring in an ecosystem, the ecological roles they perform, and the genetic diversity they contain.

Consumptive values
Activities that remove a physical part of the forest, such as timber harvesting, mushroom picking, gravel extraction, hunting and trapping.

Detective control
One of the three ways that audits influence management decisions. Detective control occurs because the audit may discover problems that have inadvertently escaped the attention of management or that have been deliberately made.

Ecosystem
A forest ecosystem is a complex system of biophysical processes and living organisms and other interacting components and processes. It comprises plants, animals and microbes interacting with soil and climate.

Forest Licence
A form of tenure in a Timber Supply Area in which the licensee harvests a specific volume and reforests according to a management plan prepared by the Forest Service. Operating areas shift over time within the TSA. The licence has a term of 15-20 years, replaceable every five years.

Forestry
The management of forests for a wide range of purposes, not just timber production.

Free-to-grow
The stage of growth at which young trees are clear of competing weeds and brush and are judged likely to thrive.

Incremental or intensive silviculture
Improvement of natural stands or plantations with the intention of increasing yield.

Incremental yield
The amount of consumptive or non-consumptive value that has been added due to incremental or intensive silviculture.

Integrated resource management
The comprehensive management of two or more natural resources over a defined area so that resource quality and quantity is maintained or enhanced in perpetuity.

Management and working plan
Under the *Forest Act* and licence documents, holders of a Tree Farm Licence or a Forest Licence are required to prepare a management and working plan for Forest Service approval.

Monitoring
The inspection and/or supervision of forest practices on a frequent basis.

Non-consumptive uses
Forest use for aesthetic, cultural and spiritual purposes. Some types of recreation would be included, for example bird watching, nature walks, or wildlife photography.

Policy network
The relationship between various stakeholders who are concerned with a specific public policy issue.

Pre-harvest Silviculture Prescription (PHSP)
A site-specific management plan, since 1987 a legal pre-requisite to logging on Crown land. The PHSP specifies planned forest activities, the methods to be used and the proposed constraints necessary to protect the site and its resource values.

Preventive control
One of the three ways that audits influence management decisions. Preventive control occurs because managers are likely to perform their tasks in a more careful manner when they are aware their results will be checked.

Private managed forest land
Private forested land designated by the B.C. Assessment Authority that is managed primarily for timber production and classified accordingly for property taxation purposes.

Provincial Forests
Land designated under the *Forest Act* that can be managed for wilderness, timber production, forage and grazing, recreation, water, fisheries and wildlife or other purposes considered appropriate by the Chief Forester.

Reforestation
The natural or assisted restocking of previously forested lands.

Reporting control
One of the three ways that audits influence management decisions. Reporting control occurs because managers know that a report on their activities will be produced and disseminated to interested parties.

Riparian zone management
Practices designed to protect water quality along streams, lakes and other water bodies.

Royalty
The payment due to the Crown for timber harvested from private lands granted in B.C. since 1887 and from old temporary tenures.

Silviculture
The science and art of growing and tending trees.

Small Business Forest Enterprise Program (SBFEP)
Expanded as a self-financing program of B.C.'s Ministry of Forests in 1988, its goals are to allow small operators to enter the forest products industry through timber sales, encourage diversification and regional employment.

Stakeholders
Any individual or group that has something to gain or lose by a particular issue, and if excluded from the process will cause or attempt to cause the results to fail.

Standing
The legal right of a person or group to challenge in an appeal before the tribunal or the appeal subcommittee of the Forest Practices Board.

Stumpage
The price paid to the government by licensees for the cutting of trees on Crown land. Calculated since 1987 by what is known as comparative value pricing, licensees pay stumpage reflecting the value of their timber stand relative to the value of an average stand in their region.

Tenure
An agreement that confers on licensees the right to utilize the resource(s) on Crown land within a certain time frame.

Timber industry
Firms and individuals earning a livelihood from logging, milling, manufacturing, marketing and selling logs and wood products.

Timber Supply Area (TSA)
In a TSA licensees manage the resource according to management plans prepared by the Forest Service. The typical tenure arrangement in a TSA is the Forest Licence.

Total quality management
The concept of a commitment to excellence that has broad support within an organization.

Tree Farm Licence (TFL)
A form of tenure which includes the right to harvest a specified volume of timber annually and the obligation to carry out all phases of forest management on behalf of the Forest Service. The licence has a 25-year term, replaceable every 10 years, and is area-based.

Visual quality objectives
Refers to the degree of acceptable alteration of a landscape. As a component of integrated resource planning, a forest landscape inventory identifies features and sensitivity, and visual quality objectives are established with respect for visual and aesthetic values.

Wildlife habitat
The natural home or environment of any species prescribed as wildlife by legislation, including big game, birds and fish.

Woodlot licence
Small, area-based tenure not attached to processing facilities. Originally developed as an adjunct to ranging to provide seasonal employment opportunities.